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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,458	10/14/2003	Robert Bland	2003P14123US	7250

7590 06/02/2005

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER

RODRIGUEZ, WILLIAM H

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/686,458

Applicant(s)

BLAND ET AL

Examiner

William H. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-31 is/are allowed.
- 6) ☒ Claim(s) 7 and 27 is/are rejected.
- 7) ☒ Claim(s) 21-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

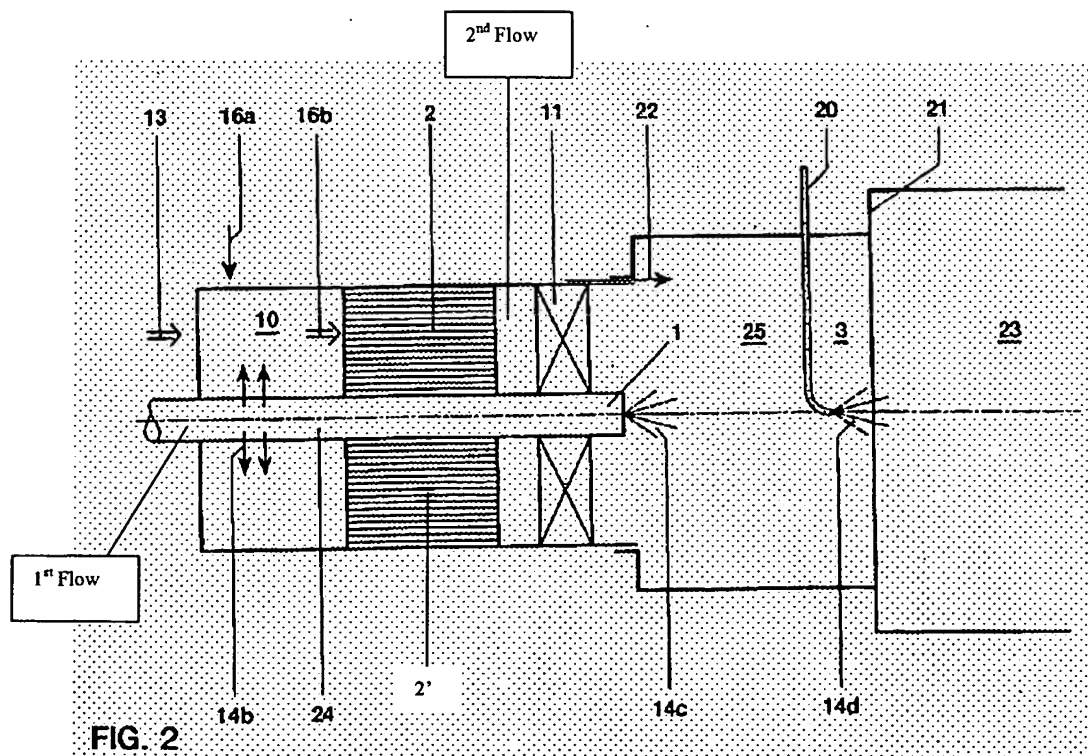
This office action is in response to the amendment and remarks filed 3/10/05. Since the examiner has applied new grounds of rejection, this office action is being made non-final to afford the applicant the opportunity to respond to the new grounds of rejection.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joos et al. (U.S. 5,729,967) in view of Saito et al. (U.S. 4,598,553).



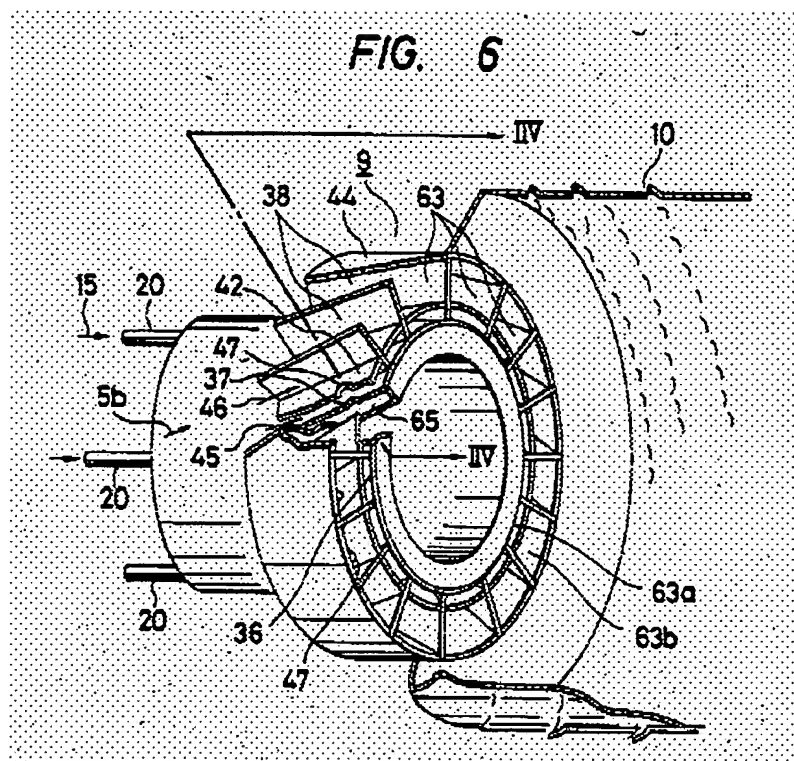


Figure 6 of Saito

With respect to claim 7, **Joos** teaches a catalytic combustor system for a turbine engine comprising: at least one pilot nozzle 1 providing a first flow exiting the pilot nozzle, at least one catalytic module 2, 2' providing a second flow exiting the plurality of catalytic modules, wherein at least a portion of the second flow is substantially adjacent to at least a portion of the first flow; and at least one vortex forming device 11 positioned substantially within the path of the second flow, wherein at least one vortex is formed in at least a portion of the second flow, wherein the at least one vortex forming device includes a plurality of surfaces (not shown but inherent), whereby at least a portion of the first flow mixes with at least a portion of the second flow. **Joos** does not schematically show the details of the vortex-forming device 11, and thus does not schematically show that a substantial majority of the surfaces of said vortex forming device are substantially oblique to the path of the second flow. However, **Saito** teaches a conventional

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vortex-forming device 9 which includes a plurality of surfaces 38, wherein a substantial majority of the surfaces of said vortex forming device 9 are substantially oblique (incline) to the path of a second flow (air passing through said vortex device) in order to provide a vortex to said flow and enhance mixing of this second flow with a first flow. Thus, as taught by **Saito**, it would have been obvious to a combustor designer (one of ordinary skill in the art) at the time the invention was made to have provided **Joos'** vortex-forming device with **Saito's** oblique surfaces in order for **Joos'** vortex-forming device to properly create a vortex and enhance mixing of the fluid(s). See particularly **Figure 2** of **Joos**; and **Figures 1, 6** of **Saito**.

**Note:** As can be seen from the references listed in the PTO-892 form, a vortex-forming device typically includes a plurality of surfaces, wherein a substantial majority of the surfaces are substantially oblique to the path of a flow going through said vortex forming device in order to create a vortex and enhance mixing of the fluid(s). Thus, providing **Joos'** vortex forming device 11 with oblique surfaces would have been obvious (if not inherent) in order for **Joos'** vortex forming device to properly create a vortex and enhance mixing of the fluid(s).

With respect to claim 27, **Joos** in view of **Saito** teach that the vortex-forming device is stationary.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
4. Claims 7 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eroglu et al. (U.S. 6,609,905)** in view of **Saito et al. (U.S. 4,598,553)**.

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5. Claims 7 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Newburry (U.S. 6,588,213)** in view of **Saito et al. (U.S. 4,598,553)**.

***Response to Arguments***

6. Applicant's arguments with respect to claims 7 and 27 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

7. Claims 28-31 are allowed in view of applicant arguments presented on page 7 the third paragraph to page 8. Statements of reasons for allowance for these claims will be provided once the whole application is in condition for allowance.

8. Claims 21-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

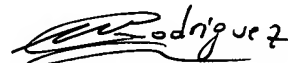
***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Rodriguez

Examiner

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5/25/08